```
   AAAAAAAAA    NNN        NNN   AAAAAAAAA    LLL                  YYY        YYY   ZZZZZZZZZZZZZZZZZ
   AAAAAAAAA    NNN        NNN   AAAAAAAAA    LLL                  YYY        YYY   ZZZZZZZZZZZZZZZZZ
   AAAAAAAAA    NNN        NNN   AAAAAAAAA    LLL                  YYY        YYY   ZZZZZZZZZZZZZZZZZ
AAA        AAA  NNN        NNN AAA        AAA LLL                  YYY        YYY               ZZZ
AAA        AAA  NNN        NNN AAA        AAA LLL                  YYY        YYY              ZZZ
AAA        AAA  NNNNNN     NNN AAA        AAA LLL                   YYY      YYY              ZZZ
AAA        AAA  NNNNNNN    NNN AAA        AAA LLL                    YYY    YYY              ZZZ
AAA        AAA  NNNNNNN    NNN AAA        AAA LLL                     YYY  YYY              ZZZ
AAA        AAA  NNN  NNN   NNN AAA        AAA LLL                      YYYYYY              ZZZ
AAA        AAA  NNN   NNN  NNN AAA        AAA LLL                       YYYY              ZZZ
AAA        AAA  NNN    NNN NNN AAA        AAA LLL                        YYY             ZZZ
AAAAAAAAAAAAAAA NNN     NNNNNN AAAAAAAAAAAAAAA LLL                       YYY            ZZZ
AAAAAAAAAAAAAAA NNN      NNNNN AAAAAAAAAAAAAAA LLL                       YYY           ZZZ
AAAAAAAAAAAAAAA NNN       NNNN AAAAAAAAAAAAAAA LLL                       YYY          ZZZ
AAA        AAA  NNN        NNN AAA        AAA LLL                       YYY         ZZZ
AAA        AAA  NNN        NNN AAA        AAA LLL                       YYY        ZZZ
AAA        AAA  NNN        NNN AAA        AAA LLLLLLLLLLLLLLLLL         YYY       ZZZZZZZZZZZZZZZZ
AAA        AAA  NNN        NNN AAA        AAA LLLLLLLLLLLLLLLLL         YYY       ZZZZZZZZZZZZZZZZ
AAA        AAA  NNN        NNN AAA        AAA LLLLLLLLLLLLLLLLL         YYY       ZZZZZZZZZZZZZZZZ
```

```
EEEEEEEEEE  XX      XX  EEEEEEEEEE  FFFFFFFFFF   IIIIII   XX       XX  UU       UU  PPPPPPPP
EEEEEEEEEE  XX      XX  EEEEEEEEEE  FFFFFFFFFF   IIIIII   XX       XX  UU       UU  PPPPPPPP
EE          XX      XX  EE          FF             II     XX       XX  UU       UU  PP     PP
EE          XX      XX  EE          FF             II     XX       XX  UU       UU  PP     PP
EE           XX    XX   EE          FF             II         XX  XX   UU       UU  PP     PP
EE           XX    XX   EE          FF             II         XX  XX   UU       UU  PP     PP
EEEEEEE        XX       EEEEEEE     FFFFFFF         II           XX     UU       UU  PPPPPPPP
EEEEEEE        XX       EEEEEEE     FFFFFFF         II           XX     UU       UU  PPPPPPPP
EE           XX    XX   EE          FF             II         XX  XX   UU       UU  PP
EE           XX    XX   EE          FF             II         XX  XX   UU       UU  PP
EE          XX      XX  EE          FF             II     XX       XX  UU       UU  PP              ....
EE          XX      XX  EE          FF             II     XX       XX  UU       UU  PP              ....
EEEEEEEEEE  XX      XX  EEEEEEEEEE  FF           IIIIII   XX       XX  UUUUUUUUUU  PP              ....
EEEEEEEEEE  XX      XX  EEEEEEEEEE  FF           IIIIII   XX       XX  UUUUUUUUUU  PP              ....


LL              IIIIII      SSSSSSSS
LL              IIIIII      SSSSSSSS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II        SSSSSS
LL                II        SSSSSS
LL                II              SS
LL                II              SS
LL                II              SS
LL                II              SS
LLLLLLLLLL      IIIIII      SSSSSSSS
LLLLLLLLLL      IIIIII      SSSSSSSS
```

```
   1    0001  0 %title 'EXEFIXUP - Analyze Fixup Info'
   2    0002  0         module exefixup (
   3    0003  1                         ident='V04-000') = begin
   4    0004  1
   5    0005  1 !
   6    0006  1 !********************************************************************
   7    0007  1 !*                                                                  *
   8    0008  1 !*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                         *
   9    0009  1 !*  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.          *
  10    0010  1 !*  ALL RIGHTS RESERVED.                                           *
  11    0011  1 !*                                                                  *
  12    0012  1 !*  THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED *
  13    0013  1 !*  ONLY IN  ACCORDANCE WITH  THE  TERMS  OF  SUCH  LICENSE  AND WITH THE *
  14    0014  1 !*  INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER *
  15    0015  1 !*  COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY *
  16    0016  1 !*  OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY *
  17    0017  1 !*  TRANSFERRED.                                                     *
  18    0018  1 !*                                                                  *
  19    0019  1 !*  THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE *
  20    0020  1 !*  AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT *
  21    0021  1 !*  CORPORATION.                                                     *
  22    0022  1 !*                                                                  *
  23    0023  1 !*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS *
  24    0024  1 !*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.          *
  25    0025  1 !*                                                                  *
  26    0026  1 !*                                                                  *
  27    0027  1 !********************************************************************
  28    0028  1 !
  29    0029  1
  30    0030  1 !++
  31    0031  1 ! Facility:     VAX/VMS Analyze Facility, Analyze Image Fixup Info
  32    0032  1 !
  33    0033  1 ! Abstract:     This module is responsible for analyzing the fixup info
  34    0034  1 !               section of an image.  This section contains info necessary
  35    0035  1 !               for the linking and activation of shareable images.
  36    0036  1 !
  37    0037  1 !
  38    0038  1 ! Environment:
  39    0039  1 !
  40    0040  1 ! Author: Paul C. Anagnostopoulos, Creation Date: 20 April 1981
  41    0041  1 !
  42    0042  1 ! Modified By:
  43    0043  1 !
  44    0044  1 !     V03-003 MCN0167        Maria del C. Nasr        02-May-1984
  45    0045  1 !             Get the length of the fixup section cells only once,
  46    0046  1 !             for the first one, and use this value for all the cells.
  47    0047  1 !
  48    0048  1 !     V03-002 MCN0158        Maria del C. Nasr        22-Mar-1984
  49    0049  1 !             Use SHL$C_MAXNAMLNG for size of shareable image name
  50    0050  1 !             to pass as a parameter to ANL$CHECK_SYMBOL.  Eliminate
  51    0051  1 !             declaration of local loop counter I.  Determine the
  52    0052  1 !             length to add for the fixup section, to support new
  53    0053  1 !             length.
  54    0054  1 !
  55    0055  1 !     V03-001 PCA1011        Paul C. Anagnostopoulos  1-Apr-1983
  56    0056  1 !             Change the message prefix to ANLOBJ$ to ensure that
  57    0057  1 !             message symbols are unique across all ANALYZEs.  This
```

```
;   58          0058  1 !
;   59          0059  1 !--                        is necessitated by the new merged message files.
```

```
    61     0060  1  %sbttl 'Module Declarations'
    62     0061  1  !
    63     0062  1  ! Libraries and Requires:
    64     0063  1  !
    65     0064  1
    66     0065  1  library 'lib';
    67     0066  1  require 'objexereq';
    68     0502  1
    69     0503  1  !
    70     0504  1  ! Table of Contents:
    71     0505  1  !
    72     0506  1
    73     0507  1  forward routine
    74     0508  1        anl$image_fixup_info;
    75     0509  1
    76     0510  1  !
    77     0511  1  ! External References:
    78     0512  1  !
    79     0513  1
    80     0514  1  external routine
    81     0515  1        anl$check_flags,
    82     0516  1        anl$check_symbol,
    83     0517  1        anl$format_error,
    84     0518  1        anl$format_flags,
    85     0519  1        anl$format_line,
    86     0520  1        anl$format_protection,
    87     0521  1        anl$interact,
    88     0522  1        anl$map_fixup_section,
    89     0523  1        anl$report_page,
    90     0524  1        anl$report_line;
    91     0525  1
    92     0526  1  external
    93     0527  1        anl$gb_interactive: byte;
    94     0528  1
    95     0529  1  !
    96     0530  1  ! Own Variables:
    97     0531  1  !
```

G 13

EXEFIXUP   EXEFIXUP - Analyze Fixup Info   15-Sep-1984 23:47:03   VAX-11 Bliss-32 V4.0-742   Page 4
V04-000   ANL$IMAGE_FIXUP_INFO - Analyze Fixup Info   14-Sep-1984 11:52:43   [ANALYZ.SRC]EXEFIXUP.B32;1   (3)

```
  99    0532  1 %sbttl 'ANL$IMAGE_FIXUP_INFO - Analyze Fixup Info'
 100    0533  1 !++
 101    0534  1 ! Functional Description:
 102    0535  1 !     This routine is responsible for the analysis of the fixup info
 103    0536  1 !     section of a shareable image.
 104    0537  1 !
 105    0538  1 ! Formal Parameters:
 106    0539  1 !     image_base                Starting address of the complete image.
 107    0540  1 !     fixup_size                Number of blocks of fixup info.
 108    0541  1 !     fixup_vbn                 VBN of fixup info.
 109    0542  1 !
 110    0543  1 ! Implicit Inputs:
 111    0544  1 !     global data
 112    0545  1 !
 113    0546  1 ! Implicit Outputs:
 114    0547  1 !     global data
 115    0548  1 !
 116    0549  1 ! Returned Value:
 117    0550  1 !     If interactive session:  true if we are to continue, false otherwise.
 118    0551  1 !
 119    0552  1 ! Side Effects:
 120    0553  1 !
 121    0554  1 !--
 122    0555  1
 123    0556  1
 124    0557  2 global routine anl$image_fixup_info(image_base,fixup_size,fixup_vbn) = begin
 125    0558  2
 126    0559  2 own
 127    0560  2     flags_def: vector[2,long] initial(
 128    0561  2                                 0,
 129    0562  2                                 uplit byte (%ascic 'IAF$V_SHR'));
 130    0563  2
 131    0564  2 local
 132    0565  2     fp: ref block[,byte],
 133    0566  2     end_ptr: ref block[,byte],
 134    0567  2     sp: ref block[,byte],
 135    0568  2     count: long,
 136    0569  2     long_array: vector[4,long];
 137    0570  2
 138    0571  2
 139    0572  2 ! We begin with a nice heading on a new page.
 140    0573  2
 141    0574  2 anl$report_page();
 142    0575  2 anl$format_line(0,0,anlobj$_exefixup);
 143    0576  2 anl$report_line(-1);
 144    0577  2 anl$report_line(-1);
 145    0578  2
 146    0579  2 ! If the fixup size and VBN are zero, then there was no fixup section.
 147    0580  2 ! Tell the user and quit.
 148    0581  2
 149    0582  3 if .fixup_size eqlu 0 then (
 150    0583  3     anl$format_line(0,1,anlobj$_exefixupnone);
 151    0584  3     return true;
 152    0585  2 );
 153    0586  2
 154    0587  2 ! Map the fixup section into memory.  If the routine returns zero, then
 155    0588  2 ! we couldn't, so tell the user.
```

```
 156    0589   2
 157    0590   2    fp = anl$map_fixup_section(.fixup_size,.fixup_vbn);
 158    0591   2    if .fp eqla 0 then (
 159    0592   3        anl$format_error(anlobj$_exebadfixupvbn,.fixup_vbn,.fixup_size);
 160    0593   3        return;
 161    0594   2    );
 162    0595   2
 163    0596   2    ! Set up a pointer to the end of the section so we can test for it.
 164    0597   2
 165    0598   2    end_ptr = .fp + .fixup_size*512;
 166    0599   2
 167    0600   2    ! Now we will format the fixed part of the fixup info.  The only items
 168    0601   2    ! we need to bother with are the flags, shareable image count,
 169    0602   2    ! and extra allowed count.
 170    0603   2
 171    0604   2    anl$format_line(3,1,anlobj$_exefixfixed);
 172    0605   2    anl$report_line(-1);
 173    0606   2    anl$format_flags(2,anlobj$_exefixflags,.fp[iaf$w_flags],flags_def);
 174    0607   2    anl$check_flags(.fp[iaf$w_flags],flags_def);
 175    0608   2    anl$format_line(0,2,anlobj$_exefixcount,.fp[iaf$l_shrimgcnt]);
 176    0609   2    anl$format_line(0,2,anlobj$_exefixextra,.fp[iaf$l_shlextra]);
 177    0610   2
 178    0611   2    ! If this is an interactive session, then let's see what the user wants to do.
 179    0612   2
 180    0613   2    if .anl$gb_interactive then
 181    0614   2        if not anl$interact() then
 182    0615   2            return false;
```

```
  184    0616   2   ! Now we are going to print the shareable image list.  This involves
  185    0617   2   ! only the name of the image.  And the first list entry has no name,
  186    0618   2   ! because it refers to this image.
  187    0619   2
  188    0620   2   anl$report_line(-1);
  189    0621   2   anl$format_line(3,1,anlobj$_exefixlist);
  190    0622   2   anl$report_line(-1);
  191    0623   2
  192    0624   2   sp = .fp + .fp[iaf$l_shlstoff];
  193    0625   2
  194    0626   3   begin
  195    0627   3
  196    0628   3   local
  197    0629   3           cell_size;
  198    0630   3
  199    0631   3   If .sp[shl$b_shl_size] neq 0
  200    0632   3   then
  201    0633   3           cell_size = .sp[shl$b_shl_size]
  202    0634   3   else
  203    0635   3           cell_size = shl$c_old_shl_size;
  204    0636   3
  205    0637   4   incru i from 0 to .fp[iaf$l_shrimgcnt]-1 do (
  206    0638   4           local
  207    0639   4                   name_dsc: descriptor;
  208    0640   4
  209    0641   4           if .i eqlu 0 then
  210    0642   4                   anl$format_line(0,2,anlobj$_exefixname0,.i)
  211    0643   5           else (
  212    0644   5                   anl$format_line(0,2,anlobj$_exefixname,.i,sp[shl$t_imgnam]);
  213    0645   5                   build_descriptor(name_dsc,.sp[shl$b_namlng],sp[shl$t_imgnam]+1);
  214    0646   5                   anl$check_symbol(name_dsc, shl$c_maxnamlng);
  215    0647   4           );
  216    0648   4           sp = .sp + .cell_size;
  217    0649   3   );
  218    0650   2   end;
  219    0651   2
  220    0652   2   ! If this is an interactive session, then let's see what the user wants to do.
  221    0653   2
  222    0654   2   if .anl$gb_interactive then
  223    0655   2           if not anl$interact() then
  224    0656   2                   return false;
```

```
226    0657   2  ! Now we will analyze the external address data (G^ fixups).  For each
227    0658   2  ! shareable image with such fixups, we have a fixup count, the image
228    0659   2  ! number, and a list of references.
229    0660   2
230    0661   2
231    0662   3  if .fp[iaf$l_g_fixoff] nequ 0 then (
232    0663   3
233    0664   3          anl$report_line(-1);
234    0665   3          anl$format_line(3,1,anlobj$_exefixg);
235    0666   3          sp = .fp + .fp[iaf$l_g_fixoff];
236    0667   3
237    0668   3          ! Loop until we get to the end of the data.
238    0669   3
239    0670   4          while .sp[0,0,32,0] nequ 0 do (
240    0671   4
241    0672   4                  ! If we have run off the end of the section, then the
242    0673   4                  ! end of data marker is missing.
243    0674   4
244    0675   5                  if .sp geqa .end_ptr then (
245    0676   5                          anl$format_error(anlobj$_exebadfixupend);
246    0677   5          exitloop;
247    0678   4                  );
248    0679   4
249    0680   4                  ! Format a line with the count and image number.
250    0681   4
251    0682   4                  count = .sp[0,0,32,0];
252    0683   4                  sp = .sp + 4;
253    0684   4                  anl$report_line(-1);
254    0685   4                  anl$format_line(2,2,anlobj$_exefixgimage,.count,.sp[0,0,32,0]);
255    0686   4                  sp = .sp + 4;
256    0687   4
257    0688   4                  ! Loop through the references and format them 4 to a line.
258    0689   4
259    0690   5                  incru i from 0 to .count-1 do (
260    0691   5                          long_array[.i mod 4] = .sp[0,0,32,0];
261    0692   5                          sp = .sp + 4;
262    0693   5
263    0694   5                          if .i mod 4 eqlu 3 or .i eqlu .count-1 then
264    0695   5                                  anl$format_line(0,3,anlobj$_exefixgline,.i mod 4 + 1,
265    0696   5                                          .long_array[0],.long_array[1],.long_array[2],.long_array[3])
266    0697   4                  );
267    0698   3          );
268    0699   3
269    0700   3          ! If this is an interactive session, then let's see what the user
270    0701   3          ! wants to do.
271    0702   3
272    0703   3          if .anl$gb_interactive then
273    0704   3                  if not anl$interact() then
274    0705   3                          return false;
275    0706   2  );
```

```
:  277   0707  2 ! Now we will analyze the internal address data (.ADDRESS fixups).  For each
:  278   0708  2 ! shareable image with such fixups, we have a fixup count, the image
:  279   0709  2 ! number, and a list of offsets.
:  280   0710
:  281   0711    if .fp[iaf$l_dotadroff] nequ 0 then (
:  282   0712  3
:  283   0713  3          ! Put out a heading line including the base address of the image,
:  284   0714  3          ! since the address are relative to it.
:  285   0715  3
:  286   0716  3          anl$report_line(-1);
:  287   0717  3          anl$format_line(3,1,anlobj$_exefixa,..image_base);
:  288   0718  3          sp = .fp + .fp[iaf$l_dotadroff];
:  289   0719  3
:  290   0720  3          ! Loop until we get to the end of the data.
:  291   0721  3
:  292   0722  4          while .sp[0,0,32,0] nequ 0 do (
:  293   0723  4
:  294   0724  4                  ! If we have run off the end of the section, then the
:  295   0725  4                  ! end of data marker is missing.
:  296   0726  4
:  297   0727  5                  if .sp geqa .end_ptr then (
:  298   0728  5                          anl$format_error(anlobj$_exebadfixupend);
:  299   0729  5          exitloop;
:  300   0730  4                          );
:  301   0731  4
:  302   0732  4                  ! Format a line with the count and image number.
:  303   0733  4
:  304   0734  4                  count = .sp[0,0,32,0];
:  305   0735  4                  sp = .sp + 4;
:  306   0736  4                  anl$report_line(-1);
:  307   0737  4                  anl$format_line(2,2,anlobj$_exefixaimage,..count,..sp[0,0,32,0]);
:  308   0738  4                  sp = .sp + 4;
:  309   0739  4
:  310   0740  4                  ! Loop through the references and format them 4 to a line.
:  311   0741  4
:  312   0742  5                  incru i from 0 to .count-1 do (
:  313   0743  5                          long_array[.i mod 4] = .sp[0,0,32,0];
:  314   0744  5                          sp = .sp + 4;
:  315   0745  5
:  316   0746  5                          if .i mod 4 eqlu 3 or .i eqlu .count-1 then
:  317   0747  5                                  anl$format_line(0,3,anlobj$_exefixaline,..i mod 4 + 1,
:  318   0748  5                                          .long_array[0],.long_array[1],.long_array[2],.long_array[3])
:  319   0749  4                          );
:  320   0750  3                  );
:  321   0751  3
:  322   0752  3          ! If this is an interactive session, then let's see what the user
:  323   0753  3          ! wants to do.
:  324   0754  3
:  325   0755  3          if .anl$gb_interactive then
:  326   0756  3                  if not anl$interact() then
:  327   0757  3                          return false;
:  328   0758  2          );
```

```
330    0759   2   ! Now we will analyze the section protection change data.  This consists
331    0760   2   ! of a count of changes, followed by the changes.  Each change specifies
332    0761   2   ! the address and extent of the section, along with its new protection.
333    0762   2
334    0763   2   if .fp[iaf$l_chgprtoff] nequ 0 then (
335    0764
336    0765   3       ! Put out a heading line including the base address of the image,
337    0766   3       ! since the address are relative to it.
338    0767   3
339    0768   3       anl$report_line(-1);
340    0769   3       anl$format_line(3,1,anlobj$_exefixp,..image_base);
341    0770   3       sp = .fp + .fp[iaf$l_chgprtoff];
342    0771   3       count = .sp[0,0,32,0];
343    0772   3       sp = .sp + 4;
344    0773   3
345    0774   3       ! Now we will loop through the change entries.
346    0775   3
347    0776   4       incru i from 1 to .count do (
348    0777   4
349    0778   4           ! If we have run off the end of the section, then the
350    0779   4           ! count is screwed up.
351    0780   4
352    0781   5           if .sp geqa .end_ptr then (
353    0782   5               anl$format_error(anlobj$_exebadfixupend);
354    0783   5   exitloop;
355    0784   4               );
356    0785   4
357    0786   4           ! Format the information about this change.
358    0787   4
359    0788   4           anl$report_line(-1);
360    0789   4           anl$format_line(2,2,anlobj$_exefixpsect,.sp[icp$l_baseva],.sp[icp$w_npages]);
361    0790   4           anl$format_protection(2,.sp[icp$w_newprt]);
362    0791   4
363    0792   4           ! Advance to the next change entry.
364    0793   4
365    0794   4           sp = .sp + 8;
366    0795   3           );
367    0796   3
368    0797   3       ! If this is an interactive session, then let's see what the user
369    0798   3       ! wants to do.
370    0799   3
371    0800   3       if .anl$gb_interactive then
372    0801   3           if not anl$interact() then
373    0802   3               return false;
374    0803   2   );
```

```
:  376       0804  2 ! We are all done.  Free up the memory mapping the fixup section.
:  377       0805  2
:  378       0806  2 anl$map_fixup_section();
:  379       0807  2
:  380       0808  2 return true;
:  381       0809  2
:  382       0810  1 end;
:  INFO#212                 L1:0592
: Null expression appears in value-required context


                                                                .TITLE   EXEFIXUP EXEFIXUP - Analyze Fixup Info
                                                                .IDENT   \V04-000\

                                                                .PSECT   $PLIT$,NOWRT,NOEXE,2

              52 48 53 5F 56 24 46 41 49 09 00000 P.AAA:         .ASCII   <9>\IAF$V_SHR\                                     ;

                                                                .PSECT   $OWN$,NOEXE,2

                              00000000  00000 FLAGS_DEF:
                                                                .LONG    0                                                 ;
                              00000000' 00004                   .ADDRESS P.AAA                                             ;

                                                                .EXTRN   ANLOBJ$_OK, ANLOBJ$_ANYTHING
                                                                .EXTRN   ANLOBJ$_DATATYPE
                                                                .EXTRN   ANLOBJ$_ERRORCOUNT
                                                                .EXTRN   ANLOBJ$_ERRORNONE
                                                                .EXTRN   ANLOBJ$_ERRORS, ANLOBJ$_EXEFIXA
                                                                .EXTRN   ANLOBJ$_EXEFIXAIMAGE
                                                                .EXTRN   ANLOBJ$_EXEFIXALINE
                                                                .EXTRN   ANLOBJ$_EXEFIXCOUNT
                                                                .EXTRN   ANLOBJ$_EXEFIXEXTRA
                                                                .EXTRN   ANLOBJ$_EXEFIXFIXED
                                                                .EXTRN   ANLOBJ$_EXEFIXFLAGS
                                                                .EXTRN   ANLOBJ$_EXEFIXG
                                                                .EXTRN   ANLOBJ$_EXEFIXGIMAGE
                                                                .EXTRN   ANLOBJ$_EXEFIXGLINE
                                                                .EXTRN   ANLOBJ$_EXEFIXLIST
                                                                .EXTRN   ANLOBJ$_EXEFIXNAME
                                                                .EXTRN   ANLOBJ$_EXEFIXNAMEO
                                                                .EXTRN   ANLOBJ$_EXEFIXP
                                                                .EXTRN   ANLOBJ$_EXEFIXPSECT
                                                                .EXTRN   ANLOBJ$_EXEFIXUP
                                                                .EXTRN   ANLOBJ$_EXEFIXUPNONE
                                                                .EXTRN   ANLOBJ$_EXEGST, ANLOBJ$_EXEHDR
                                                                .EXTRN   ANLOBJ$_EXEHDRACTIVE
                                                                .EXTRN   ANLOBJ$_EXEHDRBLKCOUNT
                                                                .EXTRN   ANLOBJ$_EXEHDRCHANCOUNT
                                                                .EXTRN   ANLOBJ$_EXEHDRCHANDEF
                                                                .EXTRN   ANLOBJ$_EXEHDRDECECO
                                                                .EXTRN   ANLOBJ$_EXEHDRDMT
                                                                .EXTRN   ANLOBJ$_EXEHDRDST
                                                                .EXTRN   ANLOBJ$_EXEHDRFILEID
                                                                .EXTRN   ANLOBJ$_EXEHDRFIXED
                                                                .EXTRN   ANLOBJ$_EXEHDRFLAGS
                                                                .EXTRN   ANLOBJ$_EXEHDRGBLIDENT
```

```
                                         .EXTRN    ANLOBJ$_EXEHDRGST
                                         .EXTRN    ANLOBJ$_EXEHDRIDENT
                                         .EXTRN    ANLOBJ$_EXEHDRIMAGEID
                                         .EXTRN    ANLOBJ$_EXEHDRISD
                                         .EXTRN    ANLOBJ$_EXEHDRISDBASE
                                         .EXTRN    ANLOBJ$_EXEHDRISDCOUNT
                                         .EXTRN    ANLOBJ$_EXEHDRISDFLAGS
                                         .EXTRN    ANLOBJ$_EXEHDRISDGBLNAM
                                         .EXTRN    ANLOBJ$_EXEHDRISDNUM
                                         .EXTRN    ANLOBJ$_EXEHDRISDPFCDEF
                                         .EXTRN    ANLOBJ$_EXEHDRISDPFCSIZ
                                         .EXTRN    ANLOBJ$_EXEHDRISDTYPE
                                         .EXTRN    ANLOBJ$_EXEHDRISDVBN
                                         .EXTRN    ANLOBJ$_EXEHDRLINKID
                                         .EXTRN    ANLOBJ$_EXEHDRMATCH
                                         .EXTRN    ANLOBJ$_EXEHDRNAME
                                         .EXTRN    ANLOBJ$_EXEHDRNOPATCH
                                         .EXTRN    ANLOBJ$_EXEHDRPAGECOUNT
                                         .EXTRN    ANLOBJ$_EXEHDRPAGEDEF
                                         .EXTRN    ANLOBJ$_EXEHDRPATCH
                                         .EXTRN    ANLOBJ$_EXEHDRPATCHDATE
                                         .EXTRN    ANLOBJ$_EXEHDRPRIV
                                         .EXTRN    ANLOBJ$_EXEHDRROPATCH
                                         .EXTRN    ANLOBJ$_EXEHDRRWPATCH
                                         .EXTRN    ANLOBJ$_EXEHDRSYMDBG
                                         .EXTRN    ANLOBJ$_EXEHDRSYSVER
                                         .EXTRN    ANLOBJ$_EXEHDRTEXTVBN
                                         .EXTRN    ANLOBJ$_EXEHDRTIME
                                         .EXTRN    ANLOBJ$_EXEHDRTYPEEXE
                                         .EXTRN    ANLOBJ$_EXEHDRTYPELIM
                                         .EXTRN    ANLOBJ$_EXEHDRUSERECO
                                         .EXTRN    ANLOBJ$_EXEHDRXFER1
                                         .EXTRN    ANLOBJ$_EXEHDRXFER2
                                         .EXTRN    ANLOBJ$_EXEHDRXFER3
                                         .EXTRN    ANLOBJ$_EXEHEADING
                                         .EXTRN    ANLOBJ$_EXEPATCH
                                         .EXTRN    ANLOBJ$_FLAG, ANLOBJ$_HEXDATA
                                         .EXTRN    ANLOBJ$_HEXHEADING1
                                         .EXTRN    ANLOBJ$_HEXHEADING2
                                         .EXTRN    ANLOBJ$_INDMSGSEC
                                         .EXTRN    ANLOBJ$_INTERACT
                                         .EXTRN    ANLOBJ$_MASK, ANLOBJ$_OBJCPRREC
                                         .EXTRN    ANLOBJ$_OBJDBGREC
                                         .EXTRN    ANLOBJ$_OBJENV, ANLOBJ$_OBJEOMFLAGS
                                         .EXTRN    ANLOBJ$_OBJEOMREC
                                         .EXTRN    ANLOBJ$_OBJEOMSEVABT
                                         .EXTRN    ANLOBJ$_OBJEOMSEVERR
                                         .EXTRN    ANLOBJ$_OBJEOMSEVIGN
                                         .EXTRN    ANLOBJ$_OBJEOMSEVRES
                                         .EXTRN    ANLOBJ$_OBJEOMSEVSUC
                                         .EXTRN    ANLOBJ$_OBJEOMSEVWRN
                                         .EXTRN    ANLOBJ$_OBJEOMWREC
                                         .EXTRN    ANLOBJ$_OBJFADPASSMECH
                                         .EXTRN    ANLOBJ$_OBJGSDENV
                                         .EXTRN    ANLOBJ$_OBJGSDENVFLAGS
                                         .EXTRN    ANLOBJ$_OBJGSDENVPAR
                                         .EXTRN    ANLOBJ$_OBJGSDEPM
```

```
            .EXTRN     ANLOBJ$_OBJGSDEPMW
            .EXTRN     ANLOBJ$_OBJGSDIDC
            .EXTRN     ANLOBJ$_OBJGSDIDCENT
            .EXTRN     ANLOBJ$_OBJGSDIDCFLAGS
            .EXTRN     ANLOBJ$_OBJGSDIDCMATCH
            .EXTRN     ANLOBJ$_OBJGSDIDCOBJ
            .EXTRN     ANLOBJ$_OBJGSDIDCVALA
            .EXTRN     ANLOBJ$_OBJGSDIDCVALB
            .EXTRN     ANLOBJ$_OBJGSDLEPM
            .EXTRN     ANLOBJ$_OBJGSDLPRO
            .EXTRN     ANLOBJ$_OBJGSDLSY
            .EXTRN     ANLOBJ$_OBJGSDPRO
            .EXTRN     ANLOBJ$_OBJGSDPROW
            .EXTRN     ANLOBJ$_OBJGSDPSC
            .EXTRN     ANLOBJ$_OBJGSDPSCALIGN
            .EXTRN     ANLOBJ$_OBJGSDPSCALLOC
            .EXTRN     ANLOBJ$_OBJGSDPSCBASE
            .EXTRN     ANLOBJ$_OBJGSDPSCFLAGS
            .EXTRN     ANLOBJ$_OBJGSDREC
            .EXTRN     ANLOBJ$_OBJGSDSPSC
            .EXTRN     ANLOBJ$_OBJGSDSYM
            .EXTRN     ANLOBJ$_OBJGSDSYMW
            .EXTRN     ANLOBJ$_OBJGTXREC
            .EXTRN     ANLOBJ$_OBJHDRIGNREC
            .EXTRN     ANLOBJ$_OBJHEADING
            .EXTRN     ANLOBJ$_OBJLITINDEX
            .EXTRN     ANLOBJ$_OBJLNKREC
            .EXTRN     ANLOBJ$_OBJLNMREC
            .EXTRN     ANLOBJ$_OBJMHDCREATE
            .EXTRN     ANLOBJ$_OBJMHDNAME
            .EXTRN     ANLOBJ$_OBJMHDPATCH
            .EXTRN     ANLOBJ$_OBJMHDREC
            .EXTRN     ANLOBJ$_OBJMHDRECSIZ
            .EXTRN     ANLOBJ$_OBJMHDSTRLVL
            .EXTRN     ANLOBJ$_OBJMHDVERSION
            .EXTRN     ANLOBJ$_OBJMTCCORRECT
            .EXTRN     ANLOBJ$_OBJMTCINPUT
            .EXTRN     ANLOBJ$_OBJMTCNAME
            .EXTRN     ANLOBJ$_OBJMTCREC
            .EXTRN     ANLOBJ$_OBJMTCSEQNUM
            .EXTRN     ANLOBJ$_OBJMTCUIC
            .EXTRN     ANLOBJ$_OBJMTCVERSION
            .EXTRN     ANLOBJ$_OBJMTCWHEN
            .EXTRN     ANLOBJ$_OBJPROARGCOUNT
            .EXTRN     ANLOBJ$_OBJPROARGNUM
            .EXTRN     ANLOBJ$_OBJPSECT
            .EXTRN     ANLOBJ$_OBJSRCREC
            .EXTRN     ANLOBJ$_OBJSTATHEADING1
            .EXTRN     ANLOBJ$_OBJSTATHEADING2
            .EXTRN     ANLOBJ$_OBJSTATLINE
            .EXTRN     ANLOBJ$_OBJSTATTOTAL
            .EXTRN     ANLOBJ$_OBJSYMBOL
            .EXTRN     ANLOBJ$_OBJSYMFLAGS
            .EXTRN     ANLOBJ$_OBJTIRARGINDEX
            .EXTRN     ANLOBJ$_OBJTIRCMD
            .EXTRN     ANLOBJ$_OBJTIRCMDSTK
            .EXTRN     ANLOBJ$_OBJTBTREC
```

```
                    .EXTRN   ANLOBJ$_OBJTIRREC
                    .EXTRN   ANLOBJ$_OBJTIRSTOIM
                    .EXTRN   ANLOBJ$_OBJTIRVIELD
                    .EXTRN   ANLOBJ$_OBJTTLREC
                    .EXTRN   ANLOBJ$_OBJVALUE
                    .EXTRN   ANLOBJ$_OBJUVALUE
                    .EXTRN   ANLOBJ$_PROTECTION
                    .EXTRN   ANLOBJ$_SEVERITY
                    .EXTRN   ANLOBJ$_TEXT, ANLOBJ$_TEXTHDR
                    .EXTRN   ANLOBJ$_NOSUCHMOD
                    .EXTRN   ANLOBJ$_BADDATE
                    .EXTRN   ANLOBJ$_BADHDRBLKCOUNT
                    .EXTRN   ANLOBJ$_BADSEVERITY
                    .EXTRN   ANLOBJ$_BADSYM1ST
                    .EXTRN   ANLOBJ$_BADSYMCHAR
                    .EXTRN   ANLOBJ$_BADSYMLEN
                    .EXTRN   ANLOBJ$_EXEBADFIXUPEND
                    .EXTRN   ANLOBJ$_EXEBADFIXUPISD
                    .EXTRN   ANLOBJ$_EXEBADFIXUPVBN
                    .EXTRN   ANLOBJ$_EXEBADISDS1
                    .EXTRN   ANLOBJ$_EXEBADISDTYPE
                    .EXTRN   ANLOBJ$_EXEBADMATCH
                    .EXTRN   ANLOBJ$_EXEBADPATCHLEN
                    .EXTRN   ANLOBJ$_EXEBADOBJ
                    .EXTRN   ANLOBJ$_EXEBADTYPE
                    .EXTRN   ANLOBJ$_EXEBADXFERO
                    .EXTRN   ANLOBJ$_EXEHDRISDLONG
                    .EXTRN   ANLOBJ$_EXEHDRLONG
                    .EXTRN   ANLOBJ$_EXEISDLENDZRO
                    .EXTRN   ANLOBJ$_EXEISDLENGBL
                    .EXTRN   ANLOBJ$_EXEISDLENPRIV
                    .EXTRN   ANLOBJ$_EXENOTNATIVE
                    .EXTRN   ANLOBJ$_EXTRABYTES
                    .EXTRN   ANLOBJ$_FIELDFIT
                    .EXTRN   ANLOBJ$_FLAGERROR
                    .EXTRN   ANLOBJ$_NOTOK, ANLOBJ$_OBJBADIDCMATCH
                    .EXTRN   ANLOBJ$_OBJBADNUM
                    .EXTRN   ANLOBJ$_OBJBADPOP
                    .EXTRN   ANLOBJ$_OBJBADPUSH
                    .EXTRN   ANLOBJ$_OBJBADTYPE
                    .EXTRN   ANLOBJ$_OBJBADVIELD
                    .EXTRN   ANLOBJ$_OBJEOMBADSEV
                    .EXTRN   ANLOBJ$_OBJEOMMISSING
                    .EXTRN   ANLOBJ$_OBJFADBADAVC
                    .EXTRN   ANLOBJ$_OBJFADBADRBC
                    .EXTRN   ANLOBJ$_OBJGSDBADALIGN
                    .EXTRN   ANLOBJ$_OBJGSDBADSUBTYP
                    .EXTRN   ANLOBJ$_OBJHDRRES
                    .EXTRN   ANLOBJ$_OBJMHDBADRECSIZ
                    .EXTRN   ANLOBJ$_OBJMHDBADSTRLVL
                    .EXTRN   ANLOBJ$_OBJMHDMISSING
                    .EXTRN   ANLOBJ$_OBJNONTIRCMD
                    .EXTRN   ANLOBJ$_OBJNOPSC
                    .EXTRN   ANLOBJ$_OBJNULLREC
                    .EXTRN   ANLOBJ$_OBJPOSPACE
                    .EXTRN   ANLOBJ$_OBJPROMINMAX
                    .EXTRN   ANLOBJ$_OBJPSCABSLEN
```

```
                                                    .EXTRN   ANLOBJ$_OBJRECTOOBIG
                                                    .EXTRN   ANLOBJ$_OBJTIRRES
                                                    .EXTRN   ANLOBJ$_OBJUNDEFENV
                                                    .EXTRN   ANLOBJ$_OBJUNDEFLIT
                                                    .EXTRN   ANLOBJ$_OBJUNDEFPSC
                                                    .EXTRN   ANALYZE$_FACILITY
                                                    .EXTRN   ANL$CHECK_FLAGS
                                                    .EXTRN   ANL$CHECK_SYMBOL
                                                    .EXTRN   ANL$FORMAT_ERROR
                                                    .EXTRN   ANL$FORMAT_FLAGS
                                                    .EXTRN   ANL$FORMAT_LINE
                                                    .EXTRN   ANL$FORMAT_PROTECTION
                                                    .EXTRN   ANL$INTERACT, ANL$MAP_FIXUP_SECTION
                                                    .EXTRN   ANL$REPORT_PAGE
                                                    .EXTRN   ANL$REPORT_LINE
                                                    .EXTRN   ANL$GB_INTERACTIVE

                                                    .PSECT   $CODE$,NOWRT,2

                              OFFC 00000            .ENTRY   ANL$IMAGE_FIXUP_INFO, Save R2,R3,R4,R5,R6,-   ; 0557
                                                             R7,R8,R9,R10,R11
                5B      0000G CF 9E 00002           MOVAB    ANL$GB_INTERACTIVE, R11
                5A 00000000G 8F D0 00007            MOVL     #ANLOBJ$_EXEBADFIXUPEND, R10
                59      0000G CF 9E 0000E           MOVAB    ANL$REPORT_LINE, R9
                58      0000G CF 9E 00013           MOVAB    ANL$FORMAT_LINE, R8
                5E         18 C2 00018              SUBL2    #24, SP
          0000G CF         00 FB 0001B              CALLS    #0, ANL$REPORT_PAGE                            ; 0574
                   00000000G 8F DD 00020            PUSHL    #ANLOBJ$_EXEFIXUP                              ; 0575
                           7E 7C 00026              CLRQ     -(SP)
                68         03 FB 00028              CALLS    #3, ANL$FORMAT_LINE
                7E         01 CE 0002B              MNEGL    #1, -(SP)                                      ; 0576
                69         01 FB 0002E              CALLS    #1, ANL$REPORT_LINE
                7E         01 CE 00031              MNEGL    #1, -(SP)                                      ; 0577
                69         01 FB 00034              CALLS    #1, ANL$REPORT_LINE
                52         08 AC D0 00037           MOVL     FIXUP_SIZE, R2                                 ; 0582
                           10 12 0003B              BNEQ     1$
                   00000000G 8F DD 0003D            PUSHL    #ANLOBJ$_EXEFIXUPNONE                          ; 0583
                           01 DD 00043              PUSHL    #1
                           7E D4 00045              CLRL     -(SP)
                68         03 FB 00047              CALLS    #3, ANL$FORMAT_LINE
                         02CB 31 0004A              BRW      35$                                            ; 0584
                   0C      AC DD 0004D 1$:          PUSHL    FIXUP_VBN                                      ; 0590
                           52 DD 00050              PUSHL    R2
          0000G CF         02 FB 00052              CALLS    #2, ANL$MAP_FIXUP_SECTION
                53         50 D0 00057              MOVL     R0, FP
                           13 12 0005A              BNEQ     3$                                             ; 0591
                           52 DD 0005C              PUSHL    R2                                             ; 0592
                   0C      AC DD 0005E              PUSHL    FIXUP_VBN
                   00000000G 8F DD 00061            PUSHL    #ANLOBJ$_EXEBADFIXUPVBN
          0000G CF         03 FB 00067              CALLS    #3, ANL$FORMAT_ERROR
                         02AD 31 0006C 2$:          BRW      36$                                            ; 0591
       52       52         09 78 0006F 3$:          ASHL     #9, R2, R2                                     ; 0598
       57       52         53 C1 00073              ADDL3    FP, R2, END_PTR
                   00000000G 8F DD 00077            PUSHL    #ANLOBJ$_EXEFIXFIXED                           ; 0604
                           01 DD 0007D              PUSHL    #1
                           03 DD 0007F              PUSHL    #3
                68         03 FB 00081              CALLS    #3, ANL$FORMAT_LINE
```

```
                          7E         01 CE 00084              MNEGL   #1, -(SP)                                     0605
                          69         01 FB 00087              CALLS   #1, ANLSREPORT_LINE
                          7E   0000' CF 9F 0008A              PUSHAB  FLAGS_DEF                                     0606
                               0A A3 3C 0008E              MOVZWL  10(FP), -(SP)
                          00000000G 8F DD 00092              PUSHL   #ANLOBJ$_EXEFIXFLAGS
                                     02 DD 00098              PUSHL   #2
                0000G CF            04 FB 0009A              CALLS   #4, ANL$FORMAT_FLAGS
                           0000' CF 9F 0009F              PUSHAB  FLAGS_DEF                                     0607
                          7E   0A A3 3C 000A3              MOVZWL  10(FP), -(SP)
                0000G CF            02 FB 000A7              CALLS   #2, ANL$CHECK_FLAGS
                               1C A3 DD 000AC              PUSHL   28(FP)                                        0608
                          00000000G 8F DD 000AF              PUSHL   #ANLOBJ$_EXEFIXCOUNT
                                     02 DD 000B5              PUSHL   #2
                          7E         D4 000B7              CLRL    -(SP)
                          68         04 FB 000B9              CALLS   #4, ANL$FORMAT_LINE
                               20 A3 DD 000BC              PUSHL   32(FP)                                        0609
                          00000000G 8F DD 000BF              PUSHL   #ANLOBJ$_EXEFIXEXTRA
                                     02 DD 000C5              PUSHL   #2
                          7E         D4 000C7              CLRL    -(SP)
                          68         04 FB 000C9              CALLS   #4, ANL$FORMAT_LINE
                          08         6B E9 000CC              BLBC    ANL$GB_INTERACTIVE, 4$                     0613
                0000G CF            00 FB 000CF              CALLS   #0, ANL$INTERACT                           0614
                          95         50 E9 000D4              BLBC    R0, 2$
                          7E         01 CE 000D7  4$:         MNEGL   #1, -(SP)                                  0620
                          69         01 FB 000DA              CALLS   #1, ANL$REPORT_LINE
                          00000000G 8F DD 000DD              PUSHL   #ANLOBJ$_EXEFIXLIST                        0621
                                     01 DD 000E3              PUSHL   #1
                                     03 DD 000E5              PUSHL   #3
                          68         03 FB 000E7              CALLS   #3, ANL$FORMAT_LINE
                          7E         01 CE 000EA              MNEGL   #1, -(SP)                                  0622
                          69         01 FB 000ED              CALLS   #1, ANL$REPORT_LINE
          54              53     18 A3 C1 000F0              ADDL3   24(FP), FP, SP                             0624
                               10 A4 95 000F5              TSTB    16(SP)                                       0631
                          06         13 000F8              BEQL    5$
                          55     10 A4 9A 000FA              MOVZBL  16(SP), CELL_SIZE                          0633
                          03         11 000FE              BRB     6$
          56              55         38 D0 00100  5$:         MOVL    #56, CELL_SIZE                            0635
                     1C A3         01 C3 00103  6$:         SUBL3   #1, 28(FP), R6                            0637
                          52         D4 00108              CLRL    I                                            0648
                          3F         11 0010A              BRB     10$
                          52         D5 0010C  7$:         TSTL    I                                            0641
                          11         12 0010E              BNEQ    8$
                          52         DD 00110              PUSHL   I                                            0642
                          00000000G 8F DD 00112              PUSHL   #ANLOBJ$_EXEFIXNAME0
                                     02 DD 00118              PUSHL   #2
                          7E         D4 0011A              CLRL    -(SP)
                          68         04 FB 0011C              CALLS   #4, ANL$FORMAT_LINE
                          25         11 0011F              BRB     9$
                               18 A4 9F 00121  8$:         PUSHAB  24(SP)                                       0644
                          52         DD 00124              PUSHL   I
                          00000000G 8F DD 00126              PUSHL   #ANLOBJ$_EXEFIXNAME
                                     02 DD 0012C              PUSHL   #2
                          7E         D4 0012E              CLRL    -(SP)
                          68         05 FB 00130              CALLS   #5, ANL$FORMAT_LINE
                          6E     18 A4 9A 00133              MOVZBL  24(SP), NAME_DSC                          0645
          04              AE     19 A4 9E 00137              MOVAB   25(R4), NAME_DSC+4
                                     27 DD 0013C              PUSHL   #39                                       0646
```

```
                       04    AE  9F 0013E           PUSHAB   NAME_DSC
            0000G CF   02     FB 00141              CALLS    #2, ANL$CHECK_SYMBOL
            54         55     C0 00146  9$:         ADDL2    CELL_SIZE, SP             0648
                       52     D6 00149              INCL     I                        0637
            56         52     D1 0014B  10$:        CMPL     I, R6
                       BC     1B 0014E              BLEQU    7$
            0B         6B     E9 00150              BLBC     ANL$GB_INTERACTIVE, 11$   0654
            0000G CF   00     FB 00153              CALLS    #0, ANL$INTERACT          0655
            03         50     E8 00158              BLBS     R0, 11$
                       01BE   31 0015B              BRW      36$
                  0C   A3     D5 0015E  11$:        TSTL     12(FP)                    0662
                       03     12 00161              BNEQ     12$
                       009B   31 00163              BRW      20$
            7E         01     CE 00166  12$:        MNEGL    #1, -(SP)                 0664
            69         01     FB 00169              CALLS    #1, ANL$REPORT_LINE
            00000000G  8F     DD 0016C              PUSHL    #ANLOBJ$_EXEFIXG          0665
                       01     DD 00172              PUSHL    #1
                       03     DD 00174              PUSHL    #3
            68         03     FB 00176              CALLS    #3, ANL$FORMAT_LINE
      54    53    0C   A3     C1 00179              ADDL3    12(FP), FP, SP            0666
                       64     D5 0017E  13$:        TSTL     (SP)                      0670
                       71     13 00180              BEQL     19$
            57         54     D1 00182              CMPL     SP, END_PTR               0675
                       09     1F 00185              BLSSU    14$
                       5A     DD 00187              PUSHL    R10                       0676
            0000G CF   01     FB 00189              CALLS    #1, ANL$FORMAT_ERROR
                       63     11 0018E              BRB      19$                       0675
            52         84     D0 00190  14$:        MOVL     (SP)+, COUNT              0682
            7E         01     CE 00193              MNEGL    #1, -(SP)                 0684
            69         01     FB 00196              CALLS    #1, ANL$REPORT_LINE
            64         DD 00199              PUSHL    (SP)                             0685
            52         DD 0019B              PUSHL    COUNT
      00000000G 8F     DD 0019D              PUSHL    #ANLOBJ$_EXEFIXGIMAGE
            02         DD 001A3              PUSHL    #2
            02         DD 001A5              PUSHL    #2
            68         05     FB 001A7              CALLS    #5, ANL$FORMAT_LINE       0686
            54         04     C0 001AA              ADDL2    #4, SP
            56    FF   A2     9E 001AD              MOVAB    -1(R2), R6                 0690
            55         D4 001B1              CLRL     I
            37         11 001B3              BRB      18$
7E 00 50    00 50      55     01     7A 001B5  15$: EMUL     #1, I, #0, -(SP)          0691
                       04     7B 001BA              EDIV     #4, (SP)+, R0, R0
      08 AE40          84     D0 001BF              MOVL     (SP)+, LONG_ARRAY[R0]
            03         50     D1 001C4              CMPL     R0, #3                    0694
            05         13 001C7              BEQL     16$
            56         55     D1 001C9              CMPL     I, R6
                       1C     12 001CC              BNEQ     17$
            14 AE      DD 001CE  16$:        PUSHL    LONG_ARRAY+12                    0696
            14 AE      DD 001D1              PUSHL    LONG_ARRAY+8
            14 AE      DD 001D4              PUSHL    LONG_ARRAY+4
            14 AE      DD 001D7              PUSHL    LONG_ARRAY
            01 A0      9F 001DA              PUSHAB   1(R0)                            0695
      00000000G 8F     DD 001DD              PUSHL    #ANLOBJ$_EXEFIXGLINE
            03         DD 001E3              PUSHL    #3
            7E         D4 001E5              CLRL     -(SP)
            68         08     FB 001E7              CALLS    #8, ANL$FORMAT_LINE
            55         D6 001EA  17$:        INCL     I                               0690
```

```
                                 56          55  D1 001EC 18$:     CMPL     I, R6
                                             C4  1B 001EF          BLEQU    15$
                                             8B  11 001F1          BRB      13$
                                 0B          6B  E9 001F3 19$:     BLBC     ANL$GB_INTERACTIVE, 20$
                       0000G     CF          00  FB 001F6          CALLS    #0, ANL$INTERACT
                                 03          50  E8 001FB          BLBS     R0, 20$
                                           011B  31 001FE          BRW      36$
                                 10          A3  D5 00201 20$:     TSTL     16(FP)
                                             03  12 00204          BNEQ     21$
                                           009B  31 00206          BRW      29$
                                 7E          01  CE 00209 21$:     MNEGL    #1, -(SP)
                                 69          01  FB 0020C          CALLS    #1, ANL$REPORT_LINE
                                 AC          04  DD 0020F          PUSHL    IMAGE_BASE
                    00000000G    8F          DD 00212             PUSHL    #ANLOBJ$_EXEFIXA
                                 01          DD 00218             PUSHL    #1
                                 03          DD 0021A             PUSHL    #3
                                 68          04  FB 0021C          CALLS    #4, ANL$FORMAT_LINE
                54              53      10    A3  C1 0021F          ADDL3    16(FP), FP, SP
                                 64          D5 00224 22$:         TSTL     (SP)
                                             71  13 00226          BEQL     28$
                                 57          54  D1 00228          CMPL     SP, END_PTR
                                             09  1F 0022B          BLSSU    23$
                                             5A  DD 0022D          PUSHL    R10
                       0000G     CF          01  FB 0022F          CALLS    #1, ANL$FORMAT_ERROR
                                             63  11 00234          BRB      28$
                                 52          84  D0 00236 23$:     MOVL     (SP)+, COUNT
                                 7E          01  CE 00239          MNEGL    #1, -(SP)
                                 69          01  FB 0023C          CALLS    #1, ANL$REPORT_LINE
                                             64  DD 0023F          PUSHL    (SP)
                                             52  DD 00241          PUSHL    COUNT
                    00000000G    8F          DD 00243             PUSHL    #ANLOBJ$_EXEFIXAIMAGE
                                             02  DD 00249          PUSHL    #2
                                             02  DD 0024B          PUSHL    #2
                                 68          05  FB 0024D          CALLS    #5, ANL$FORMAT_LINE
                                 54          04  C0 00250          ADDL2    #4, SP
                                 56      FF   A2  9E 00253          MOVAB    -1(R2), R6
                                             55  D4 00257          CLRL     I
                                             37  11 00259          BRB      27$
          7E            00          55       01  7A 0025B 24$:     EMUL     #1, I, #0, -(SP)
          50            50          8E       04  7B 00260          EDIV     #4, (SP)+, R0, R0
                              08 AE40         84  D0 00265          MOVL     (SP)+, LONG_ARRAY[R0]
                                 03          50  D1 0026A          CMPL     R0, #3
                                             05  13 0026D          BEQL     25$
                                 56          55  D1 0026F          CMPL     I, R6
                                             1C  12 00272          BNEQ     26$
                                 14          AE  DD 00274 25$:     PUSHL    LONG_ARRAY+12
                                 14          AE  DD 00277          PUSHL    LONG_ARRAY+8
                                 14          AE  DD 0027A          PUSHL    LONG_ARRAY+4
                                 14          AE  DD 0027D          PUSHL    LONG_ARRAY
                                 01          A0  9F 00280          PUSHAB   1(R0)
                    00000000G    8F          DD 00283             PUSHL    #ANLOBJ$_EXEFIXALINE
                                             03  DD 00289          PUSHL    #3
                                 7E          D4 0028B             CLRL     -(SP)
                                 68          08  FB 0028D          CALLS    #8, ANL$FORMAT_LINE
                                 55          D6 00290 26$:         INCL     I
                                 56          55  D1 00292 27$:     CMPL     I, R6
                                             C4  1B 00295          BLEQU    24$
```

```
0670
0703
0704

0711

0716

0717



0718
0722

0727

0728

0727
0734
0736

0737




0738
0742


0743



0746


0748




0747




0742
```

```
                              8B  11 00297              BRB     22$                              : 0722
                              6B  E9 00299 28$:         BLBC    ANL$GB_INTERACTIVE, 29$          : 0755
                  0000G CF    00  FB 0029C              CALLS   #0, ANL$INTERACT                 : 0756
                        78    50  E9 002A1              BLBC    R0, 36$
                           14 A3  D5 002A4 29$:         TSTL    20(FP)                           : 0763
                              6A  13 002A7              BEQL    34$
                        7E    01  CE 002A9              MNEGL   #1, -(SP)                        : 0768
                        69    01  FB 002AC              CALLS   #1, ANL$REPORT_LINE
                           04 AC  DD 002AF              PUSHL   IMAGE_BASE                       : 0769
                  00000000G 8F  DD 002B2              PUSHL   #ANLOBJ$_EXEFIXP
                              01  DD 002B8              PUSHL   #1
                              03  DD 002BA              PUSHL   #3
                              04  FB 002BC              CALLS   #4, ANL$FORMAT_LINE
            54          53 14 A3  C1 002BF              ADDL3   20(FP), FP, SP                   : 0770
                        52    84  DO 002C4              MOVL    (SP)+, COUNT                     : 0771
                        55    01  DO 002C7              MOVL    #1, I                            : 0781
                        37    11 002CA              BRB     32$
                        57    54  D1 002CC 30$:         CMPL    SP, END_PTR
                              09  1F 002CF              BLSSU   31$
                        5A  DD 002D1              PUSHL   R10                                  : 0782
                  0000G CF    01  FB 002D3              CALLS   #1, ANL$FORMAT_ERROR
                        2E  11 002D8              BRB     33$                                  : 0781
                        7E    01  CE 002DA 31$:         MNEGL   #1, -(SP)                        : 0788
                        69    01  FB 002DD              CALLS   #1, ANL$REPORT_LINE
                        7E 04 A4  3C 002E0              MOVZWL  4(SP), -(SP)                     : 0789
                        64  DD 002E4              PUSHL   (SP)
                  00000000G 8F  DD 002E6              PUSHL   #ANLOBJ$_EXEFIXPSECT
                        02  DD 002EC              PUSHL   #2
                        02  DD 002EE              PUSHL   #2
                        05  FB 002F0              CALLS   #5, ANL$FORMAT_LINE
                        68
                        7E 06 A4  3C 002F3              MOVZWL  6(SP), -(SP)                     : 0790
                        02  DD 002F7              PUSHL   #2
                  0000G CF    02  FB 002F9              CALLS   #2, ANL$FORMAT_PROTECTION
                        54    08  C0 002FE              ADDL2   #8, SP                           : 0794
                        55  D6 00301              INCL    I                                    : 0776
                        52    55  D1 00303 32$:         CMPL    I, COUNT
                              C4  1B 00306              BLEQU   30$
                        08    6B  E9 00308 33$:         BLBC    ANL$GB_INTERACTIVE, 34$          : 0800
                  0000G CF    00  FB 0030B              CALLS   #0, ANL$INTERACT                 : 0801
                        09    50  E9 00310              BLBC    R0, 36$
                  0000G CF    00  FB 00313 34$:         CALLS   #0, ANL$MAP_FIXUP_SECTION        : 0806
                        50    01  DO 00318 35$:         MOVL    #1, R0                           : 0808
                              04 0031B              RET
                        50  D4 0031C 36$:         CLRL    R0                                  : 0810
                              04 0031E              RET
```

; Routine Size: 799 bytes,   Routine Base: $CODE$ + 0000

: 383   0811 1
: 384   0812 0 end eludom

;   PSECT SUMMARY
;
;   Name   Bytes   Attributes
;
; $PLIT$ 10   NOVEC,NOWRT, RD ,NOEXE,NOSHR, LCL, REL, CON,NOPIC,ALIGN(2)
; OWN 8   NOVEC, WRT, RD ,NOEXE,NOSHR, LCL, REL, CON,NOPIC,ALIGN(2)
; $CODE$ 799   NOVEC,NOWRT, RD , EXE,NOSHR, LCL, REL, CON,NOPIC,ALIGN(2)

;   Library Statistics
;
;   -------- Symbols --------   Pages   Processing
;   File   Total   Loaded   Percent   Mapped   Time
;
;   _255DUA28:[SYSLIB]LIB.L32;1   18619   25   0   1000   00:01.7

; Information: 1
; Warnings: 0
; Errors: 0

;   COMMAND QUALIFIERS

;   BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS$:EXEFIXUP/OBJ=OBJ$:EXEFIXUP MSRC$:EXEFIXUP/UPDATE=(ENH$:EXEFIXUP)

; Size: 799 code + 18 data bytes
; Run Time: 00:17.0
; Elapsed Time: 01:03.9
; Lines/CPU Min: 2872
; Lexemes/CPU-Min: 13669
; Memory Used: 290 pages
; Compilation Complete